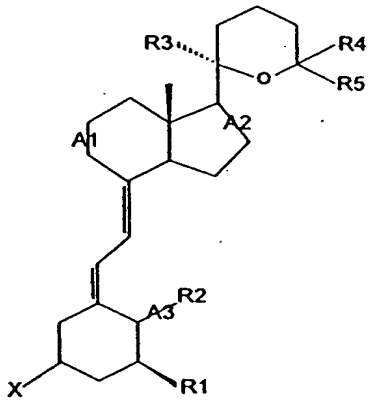
What is claimed is:

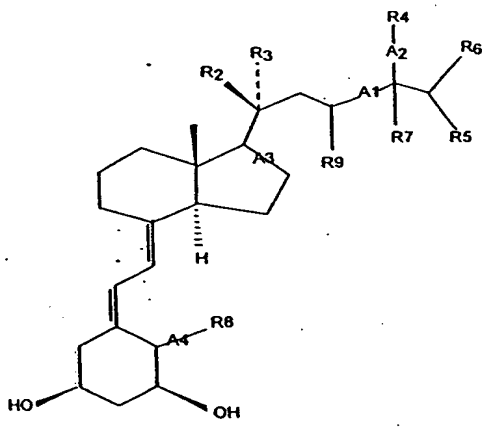
1. An isolated cyclic ether vitamin D3 compound having the formula (I) as follows:



I

, wherein A_1, A_2 and A_3 are a single or a double bond; X, R_1, R_2, R_3, R_4 and R_5 are selected from the group consisting of a hydrogen, a halogen, a haloalkyl, a hydroxy, a hydroxy-protecting group, an alkyl, an alkenyl, an alkynyl, an alkoxy, an aryl group and a heterocyclic group.

2. An isolated 3-epi form of 1α-hydroxy-vitamin D3 compounds having the formula II as follows:



II

, wherein A_1 is a single, a double, or a triple bond; A_2, A_3 and A4 are each independently selected from the group consisting of a single or a double bond; R_2, R_3, R_4, R_7, R_8 and R_9 are independently selected from the group consisting of a hydrogen, a deuterium, a deuteroalkyl, a hydroxy, an alkyl, an alkoxide, an O-acyl, a halogen, a haloalkyl, a hydroxyalkyl, an amine or a thiol group, and wherein the pairs of R_2 and R_3, and R_4 and R_7 taken together are an oxygen atom; and R_5 and R_6 are independently

selected from the group consisting of a hydrogen, a deuterium, a halogen, an alkyl, a hydroxyalkyl, a haloalkyl, and a deuteroalkyl.

3. The compound of claim 2, which is 1α(OH) vitamin D3, 1α,24 dihydroxy 3-epi vitamin D_3, 1α hydroxy 24-ethyl 3-epi vitamin D_3, 1α hydroxy 24-methyl 3-epi vitamin D_3, or 1α, 24-dihydroxy 24-methyl 3-epi vitamin D_3.

4. A method of treating a disorder characterized by an aberrant activity of a vitamin D_3-responsive cell, comprising administering to a subject an effective amount of a vitamin D_3 compound having the formula (I) or (II) of any of claims 1 or 2, such that the aberrant activity of the vitamin D_3-responsive cell is reduced.

5. The method of claim 4, wherein the disorder comprises an aberrant activity of a hyperproliferative skin cell.

6. The method of claim 4, wherein the disorder comprises an aberrant activity of an endocrine cell.

7. The method of claim 6, wherein the endocrine cell is a parathyroid cell and the aberrant activity is processing and/or secretion of parathyroid hormone.

8. The method of claim 7, wherein the disorder is secondary hyperparathyroidism.

9. The method of claim 8, wherein the disorder comprises an aberrant activity of a bone cell.

10. The method of claim 9, wherein the disorder is selected from the group consisiting of osteoporosis, osteodystrophy, senile osteoporosis, osteomalacia, rickets, osteitis fibrosa cystica, renal osteodystrophy, secondary hyperparathyrodism, cirrhosis, and chronic renal disease.

11. The method of claim 4, wherein the subject is a mammal.

12. The method of claim 11, wherein the mammal is a human.

13. A method of ameliorating a deregulation of calcium and phosphate metabolism, comprising administering to a subject a therapeutically effective amount of a 3-epi vitamin D_3 compound of any of claims 2 or 3, so as to ameliorate the deregulation of the calcium and phosphate metabolism.

14. The method of claim 13, wherein the deregulation of the calcium and phosphate metabolism leads to osteoporosis.

15. A pharmaceutical composition comprising, a therapeutically effective amount of a vitamin D_3 compound of any of claims 1 or 2, and a pharmaceutically acceptable carrier.

16. The composition of claim 15, which is suitable for topical or oral administration.

17. A packaged compound, comprising a vitamin D_3 compound of any of claims 1 or 2, packaged with instructions for use of the compound for treating a disorder characterized by an aberrant activity of a vitamin D_3-responsive cell.